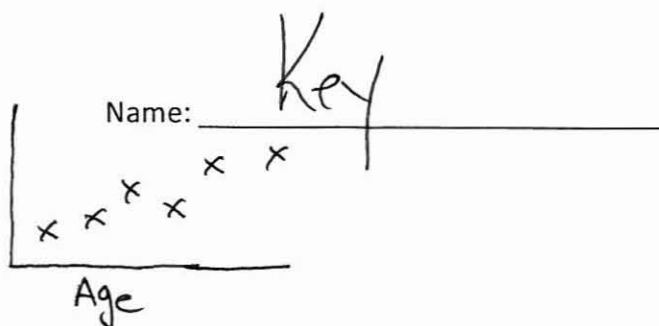


AP Statistics Worksheet
Correlation

1. Make a scatterplot of the data.

⇒



2. Find the correlation for the data.

$$r = .9929$$

3. Describe the relationship between age and weight – in context.

There is a strong, positive, linear relationship between age & weight. In general, as you get older your weight increases.

4. Calculate the correlation coefficient for the data by hand. Use the chart below. Also, refer to page 149 in your text.

Age	Weight	z_x	z_y	$z_x z_y$
12	81	.61574	.7929	.4882
8	64	-1.236	-1.219	1.5067
9	68	-.7731	-.7456	.5764
10	72	-.3102	-.2722	.0844
11	74	.15278	-.0355	-.0054
14	87	1.5417	1.203	2.3171

$$\bar{x} = 10.67 \quad \bar{y} = 74.3$$

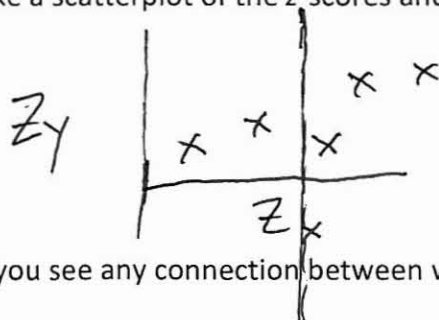
$$s_x = 2.16 \quad s_y = 8.45$$

$$\text{SUM: } 4.967$$

$$r \text{ value: } r = \frac{4.967}{5} = .9934$$

Formula for "r"

5. Make a scatterplot of the z-scores and determine the r value for that relationship.



$$r = .993$$

6. Do you see any connection between what you found in #2, #4 and #5.

All values & graph are same.